

REMARKS

By this Amendment, Claims 1-3 and 37 are amended, and no new claims are added.

I. Claim Objections

The Examiner objected to claim 37 because "Claim 37 should depend on claim 36 and not claim 38 for proper antecedent basis for "the shower plate".

The Applicants have amended claim 37 to overcome the objection.

II. Claim Rejections - 35 U.S.C. §112

The Examiner has rejected Claim 2 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The Examiner rejects Claim 2 stating that:

"The term "small foot" is not defined in the specification and is a relative term."

The Applicants have amended Claim 2 to more clearly recite the invention and believe this "35 U.S.C. 112, second paragraph" rejection of Claim 2 should be withdrawn.

III. Claim Rejections - 35 U.S.C. §102b

The Examiner has rejected Claims 1-5, 10, 15-17, 19-21, 23, 27-29 and 31-33 are rejected under 35 U.S.C. 102(b) as being anticipated by M. Angeopoulos et. al. (U. S. Patent: 6316167, here after 167).

The Examiner has rejected claim 1 under 35 U.S.C. 102(b) as being anticipated by 167, asserting that 167 teaches:

"a method for depositing a material on a substrate, comprises,
placing a substrate in a chamber having a plasma source and on a substrate holder [column 9 line 65];

depositing a TERA layer on the substrate [column 8 line 58, (SiCH)], wherein a processing gas comprising a precursor is provided to the chamber [column 8 line 54, column 8 line 591; exposing the TERA layer to a post- processing plasma (wherein a

photoresist-compatible surface is created on the TERA layer) [column 8 lines 49-54 and column 12 lines 60-62, (in fact the first layer is considered TERA layer deposition and the deposition of the second layer via plasma processing is considered a post plasma treatment to create a photoresist compatible surface). The created layers have good photoresist compatibility [column 10 lines 66-67].

The Applicants have amended Claim 1 to more clearly recite the invention and believe this “35 U.S.C. 102(b)” rejection of Claim 1 should be withdrawn because amended Claim 1 is not anticipated by 167.

Specifically, the Applicants have amended claim 1 to recite the step of “modifying a top surface of the deposited TERA layer by exposing the deposited TERA layer to a post-processing plasma, wherein a photoresist-compatible surface is created on the top of TERA layer to prevent the formation of a photoresist foot during a subsequent lithographic operation”, and the Applicants believe that the cited art does not teach, suggest, or motivate such a ‘modification’ step.

The Applicants have amended Claim 2 to more clearly recite the invention and believe this “35 U.S.C. 102(b)” rejection of Claim 2 should be withdrawn because amended Claim 2 is not anticipated by 167.

The Applicants have amended Claim 3 to more clearly recite the invention and believe this “35 U.S.C. 102(b)” rejection of Claim 3 should be withdrawn because amended Claim 3 is not anticipated by 167.

In addition, the Applicants have amended Claim 1 to more clearly recite the invention and believe this “35 U.S.C. 102(b)” rejection of Claims 2-5, 10, 15-17, 19-21, 23, 27-29, and 31-33 should be withdrawn because Claims 2-5, 10, 15-17, 19-21, 23, 27-29, and 31-33 are dependent from amended Claim 1, and the Applicants believe that amended Claim 1 is not anticipated by 167.

IV. Claim Rejections - 35 U.S.C. §103(a)

The Examiner has rejected Claims 7, 9, 11-12, 18, and 25-26 under 35 U.S.C. 103(a) as being unpatentable over M. Angeopoulos et. al. (U. S. Patent: 6316167, here after 167) further in view of Houngh T. Nguyen et. al. (U. S. Patent application: 200310017694, here after 694).

The Applicants have amended Claim 1 to more clearly recite the invention and believe this “35 U.S.C. 103(a)” rejection of Claims 7, 9, 11-12, 18, and 25-26 should be withdrawn because Claims 7, 9, 11-12, 18, and 25-26 are dependent from amended Claim 1, and the Applicants believe that amended Claim 1 is patentable over 167 and 694.

The Examiner has rejected Claim 30 under 35 U.S.C. 103(a) as being unpatentable over M. Angeopoulos et. al. (U. S. Patent: 6316167, here after 167), further in view of A. Grill, Journal of Applied Physics, Vol. 93 (2003) 1785-1 790, here after Grill.

The Applicants have amended Claim 1 to more clearly recite the invention and believe this “35 U.S.C. 103(a)” rejection of Claim 30 should be withdrawn because Claim 30 is dependent from amended Claim 1, and the Applicants believe that amended Claim 1 is patentable over 167 and Grill.

The Examiner has rejected Claims 6, 8, 13-14, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over M. Angeopoulos et. al. (U. S. Patent: 6316167, here after 167) further in view of Seon Mee Cho et. al. (U. S. Patent Application: 2003/0003768, here after Cho).

The Applicants have amended Claim 1 to more clearly recite the invention and believe this “35 U.S.C. 103(a)” rejection of Claims 6, 8, 13-14, and 24 should be withdrawn because Claims 6, 8, 13-14, and 24 are dependent from amended Claim 1, and the Applicants believe that amended Claim 1 is patentable over 167 and Cho.

The Examiner has rejected Claim 22 under 35 U.S.C. 103(a) as being unpatentable over M. Angeopoulos et. al. (U. S. Patent: 6316167, here after 167) further in view of Craig A. Roderick (U. S. Patent: 6074488, here after 488).

The Applicants have amended Claim 1 to more clearly recite the invention and believe this “35 U.S.C. 103(a)” rejection of Claim 30 should be withdrawn because Claim 30 is dependent from amended Claim 1, and the Applicants believe that amended Claim 1 is patentable over 167 and 488.

The Examiner has rejected Claims 34-35 under 35 U.S.C. 103(a) as being unpatentable over M. Angeopoulos et. al. (U. S. Patent: 6316167, here after 167) further in view of Tae K. Won (U. S. Patent Application: 200310044621, here after Won).

The Applicants have amended Claim 1 to more clearly recite the invention and believe this “35 U.S.C. 103(a)” rejection of Claims 34-35 should be withdrawn because Claims 34-35 are dependent from amended Claim 1, and the Applicants believe that amended Claim 1 is patentable over 167 and Won.

The Examiner has rejected Claim 36 under 35 U.S.C. 103(a) as being unpatentable over M. Angeopoulos et. al. (U. S. Patent: 6316167, here after 167) further in view of Zheng Yuan (U. S. Application: 200210163028, here after Yuan).

The Applicants have amended Claim 1 to more clearly recite the invention and believe this “35 U.S.C. 103(a)” rejection of Claim 36 should be withdrawn because Claim 36 is dependent from amended Claim 1, and the Applicants believe that amended Claim 1 is patentable over 167 and Yuan.

The Examiner has rejected Claim 38 under 35 U.S.C. 103(a) as being unpatentable over M. Angeopoulos et. al. (U. S. Patent: 6316167, here after 167) further in view of Enzo Carollo (U. S. Patent Application: 2004/0137169, here after Carollo).

The Applicants have amended Claim 1 to more clearly recite the invention and believe this “35 U.S.C. 103(a)” rejection of Claim 38 should be withdrawn because Claim 38 is dependent from amended Claim 1, and the Applicants believe that amended Claim 1 is patentable over 167 and Carollo.

The Examiner has rejected Claim 37 under 35 U.S.C. 103(a) as being unpatentable over M. Angeopoulos et. al. (U. S. Patent: 6316167, here after 167) and Enzo Carollo (U. S. Patent Application: 2004/0137169, here after Carollo) as applied to claim 38 above, further in view of Zheng Yuan (U. S. Application: 2002/0163028, here after Yuan).

The Applicants have amended Claim 1 to more clearly recite the invention and believe this “35 U.S.C. 103(a)” rejection of Claim 37 should be withdrawn because Claim 37 is dependent from amended Claim 1, and the Applicants believe that amended Claim 1 is patentable over 167 in view of Carollo and Yuan.

The Examiner has rejected Claims 40 and 43 under 35 U.S.C. 103(a) as being unpatentable over M. Angeopoulos et. al. (U. S. Patent: 6316167, here after 167) further in view of Yuan-KO Hwang et. al., (U. S. patent: 6238160, here after Hwang).

The Applicants have amended Claim 1 to more clearly recite the invention and believe this “35 U.S.C. 103(a)” rejection of Claims 40 and 43 should be withdrawn because Claims 40 and 43 are dependent from amended Claim 1, and the Applicants believe that amended Claim 1 is patentable over 167 and Hwang.

The Examiner has rejected Claims 41-42 under 35 U.S.C. 103(a) as being unpatentable over M. Angeopoulos et. al. (U. S. Patent: 6316167, here after 167) further in view of Dan Maydan et. al. (U. S. Patent: 4951601, here after Maydan).

The Applicants have amended Claim 1 to more clearly recite the invention and believe this “35 U.S.C. 103(a)” rejection of Claims 41-42 should be withdrawn because Claims 41-41 are dependent from amended Claim 1, and the Applicants believe that amended Claim 1 is patentable over 167 and Maydan.

The Examiner has rejected Claim 39 under 35 U.S.C. 103(a) as being unpatentable over M. Angeopoulos et. al. (U. S. Patent: 6316167, here after 167) further in view of Enzo Carollo (U. S. Patent; 6953609, here after Carollo) and S. Avanzino, et. al. (U. S. Patent: 5776834, here after 834).

The Applicants have amended Claim 1 to more clearly recite the invention and believe this “35 U.S.C. 103(a)” rejection of Claim 39 should be withdrawn because Claim 39 is dependent from amended Claim 1, and the Applicants believe that amended Claim 1 is patentable over 167 in view of Carollo and 834.

The Applicants believe that the Examiner’s “35 U.S.C. 103(a)” rejections are based on improper hindsight reasoning and are improper because the Examiner is using “knowledge gleaned only from applicant’s disclosure” to make the rejections. In re McLaughlin 443 F.2d 1392, 1395, 170 USPQ 209, 212 (CCPA 1971).

Each of the Examiner’s rejections having been addressed, the Applicants respectfully submit that Claims 1-43 are now in a condition for allowance. Given the above remarks, independent claim 1, as amended, is now in condition for allowance. The dependent claims 2-20 and 24-26, as amended, are similarly in condition for allowance as they incorporate limitations from independent claim 1. In light of the comments above, the Applicant respectfully requests the allowance of claims 1-20 and claims 24-26.

If the undersigned agent has overlooked a teaching in any of the cited references that is relevant to the Allowability of the claims, the Examiner is requested to specifically point out where such teaching may be found. Further, if there are any informalities or questions that can be addressed via telephone, the Examiner is encouraged to contact the undersigned agent at 480-539-2105 or by email at jim.klekotka@us.tel.com.

Charge Deposit Account

Please charge our Deposit Account No. 50-3451 for any additional fee(s) that may be due in this matter, and please credit the same deposit account for any overpayment.

Respectfully submitted,

/James Klekotka/

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